

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

HN3C09F

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

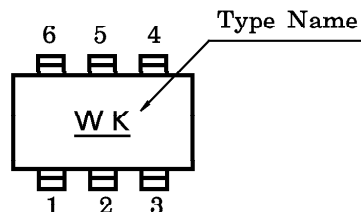
- Including Two Devices in SM6 (Super Mini Type with 6 Leads)

MAXIMUM RATINGS (Ta = 25°C)

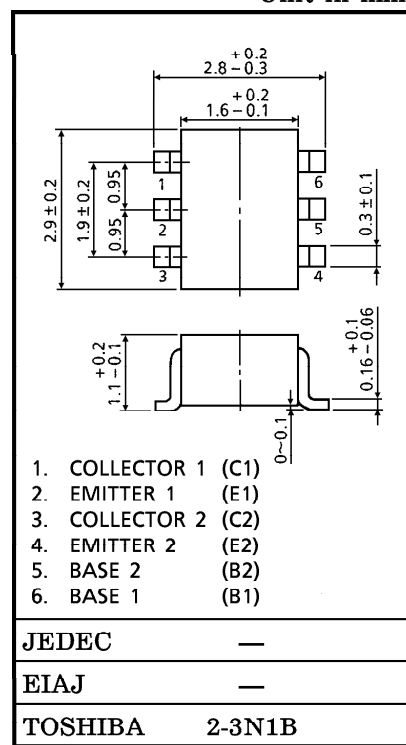
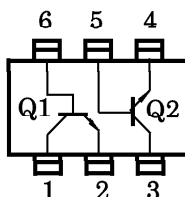
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|---------|------|
| Collector-Base Voltage | V _{CB0} | 20 | V |
| Collector-Emitter Voltage | V _{CEO} | 12 | V |
| Emitter-Base Voltage | V _{EB0} | 3 | V |
| Base Current | I _B | 15 | mA |
| Collector Current | I _C | 30 | mA |
| Collector Power Dissipation | P _C * | 300 | mW |
| Junction Temperature | T _j | 125 | °C |
| Storage Temperature Range | T _{stg} | -55~125 | °C |

* : Total

MARKING



PIN ASSIGNMENT (TOP VIEW)



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---------------------------------|---------------------------------|--|------|------|------|------|
| Collector Cut-off Current | I _{CBO} | V _{CB} = 10V, I _E = 0 | — | — | 1 | μA |
| Emitter Cut-off Current | I _{EBO} | V _{EB} = 1V, I _C = 0 | — | — | 1 | μA |
| DC Current Gain | h _{FE} | V _{CE} = 5V, I _C = 10mA | 80 | — | 240 | — |
| Transition Frequency | f _T | V _{CE} = 5V, I _C = 10mA | 5 | 7 | — | GHz |
| Insertion Gain | S _{21e} ² | V _{CE} = 5V, I _C = 10mA, f = 1GHz | 8 | 11.5 | — | dB |
| Noise Figure | NF | V _{CE} = 5V, I _C = 3mA, f = 1GHz | — | 1.1 | 2 | dB |
| Reverse Transfer Capacitance Q1 | C _{re} | V _{CB} = 5V, I _E = 0, f = 1MHz (Note) | — | 0.45 | 0.9 | pF |
| Reverse Transfer Capacitance Q2 | C _{re} | | — | 0.4 | 0.85 | pF |

(Note) C_{re} is measured by 3 terminal method capacitance bridge.

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